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EXAMINER	
RAO, ANAND SHASHIKANT	
ART UNIT	**PAPER NUMBER**
2613	6

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/851,559	Applicant(s) KISHI, HIROKI	
	Examiner Andy S. Rao	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 8/17/01 as Paper 3 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted on a US-PTO 1449 form for consideration by the Office. There is no copy of the US-PTO 1449 form present with the submitted references. The IDS has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Zandi et al., (hereinafter referred to as "Zandi").

Zandi discloses a coding device for encoding image data (Zandi: figure 1), comprising: a transforming means for performing discrete wavelet transformation on inputted image data

(Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); coding means for entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and generating means for monitoring the amount of a predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 1.

Regarding claim 2, Zandi discloses inputting means for inputting image data with voice, and separating means for separating image data with voice information from the image data with voice inputted by said inputting means (Zandi: column 6, lines 40-45 and 60-65), as in the claim.

Regarding claim 3, Zandi discloses that bit-planes are removed in ascending order (Zandi: column 19, lines 15-67; column 31, lines 40-66), as in the claim.

Regarding claims 4-5, Zandi discloses defining the lowest frequency sub-band of the sub-bands and each of the sub-bands (Zandi: column 29, lines 15-60) and making its coded data to be fixed length data (Zandi: column 36, lines 5-10), as in the claims.

Regarding claim 6, Zandi discloses defining a resolution level (Zandi: column 16, lines 25-30) constituted by a certain number of the sub-bands and each of the sub-bands (Zandi: column 29, lines 15-60) and making its coded data to be fixed length data (Zandi: column 36, lines 5-10), as in the claim.

Regarding claim 7, Zandi discloses generating a header generating said fixed length coded data (Zandi: column 42, lines 1-15), as in the claim.

Regarding claims 8-9, Zandi discloses that the transforming means comprises storing means for storing therein said transformation factor on a temporary basis (Zandi: column 31, lines 40-55), and quantization is performed in the order of from a lower level sub-band to a higher level sub-band from this storing means (Zandi: column 17, lines 60-67), as in the claims.

Zandi discloses a coding method of encoding image data (Zandi: column 52, lines 10-20), comprising: a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); coding step of entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and a generating step of monitoring the amount of a predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 10.

Regarding claim 11, Zandi discloses an inputting step of inputting image data with voice, and separating means for separating image data with voice information from the image data with voice inputted by said inputting means (Zandi: column 6, lines 40-45 and 60-65), as in the claim.

Zandi discloses storage medium storing therein program codes (Zandi: column 4, lines 65-67; column 5, lines 1-4) functioning as a coding device (Zandi: column 4, lines 55-60) for

encoding image data (Zandi: figure 1) comprising: a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of coding step of entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of generating step of monitoring the amount of a predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 12.

Regarding claim 13, Zandi discloses a program code (Zandi: column 4, lines 65-68; column 5, lines 1-4) of an inputting step of inputting image data with voice, and separating means for separating image data with voice information from the image data with voice inputted by said inputting means (Zandi: column 6, lines 40-45 and 60-65), as in the claim.

Zandi discloses a coding method of encoding image data (Zandi: column 52, lines 10-20) of each frame constituting an motion image (Zandi: column 6, lines 60-65), comprising: a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); coding step of entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and a generating step of monitoring the amount of a

predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 14.

Regarding claims 15-16, Zandi discloses defining the lowest frequency sub-band of the sub-bands and each of the sub-bands (Zandi: column 29, lines 15-60) and making its coded data to be fixed length data (Zandi: column 36, lines 5-10), as in the claims.

Zandi discloses a coding device for encoding image data (Zandi: figure 1) of each frame constituting a motion image (Zandi: column 6, lines 60-65), comprising: a transforming means for performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); coding means for entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and generating means for monitoring the amount of a predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 17.

Zandi discloses storage medium storing therein program codes (Zandi: column 4, lines 65-67; column 5, lines 1-4) functioning as a coding device (Zandi: column 4, lines 55-60) for

encoding image data (Zandi: figure 1), each frame constituting a motion image (Zandi: column 6, lines 60-65) comprising: a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of coding step of entropy encoding each of the sub-bands (Zandi: column 21, lines 11-51); and a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of generating step of monitoring the amount of a predetermined sub-band in said sub-band (Zandi: column 9, lines 30-40), and if the predetermined sub-band exceeds a predetermined code-length (Zandi: column 10, lines 40-65), and the predetermined sub-band does not reach said predetermined code length, adding dummy data to the code length data of said sub-band (Zandi: column 20, lines 65-67), thereby generating fixed length coded data of said predetermined code length (Zandi: column 35, lines 5-15), as in claim 18.

Zandi discloses image playback method of decoding/playing-back according to 1/n fold playback speeds (Zandi: column 22, lines 50-67; column 23, lines 1-50) each frame image coded obtained by a dividing image data of each frame constituting an motion image into frequency sub-bands (Zandi: column 16, lines 1-67) and encoding the same so that the coded data of predetermined sub-bands (Zandi: column 17, lines 55-67; column 18, lines 1-15) of the frequency sub-bands are length-fixed (Zandi: column 35, lines 5-15), wherein at least one of said length-fixed coded data are decoded as objects to be decoded (Zandi: column 6, lines 32-45), and are played back as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as claim 19.

Regarding claims 20-21, Zandi discloses defining the lowest frequency sub-band of the sub-bands and each of the sub-bands (Zandi: column 29, lines 15-60) and making its coded data to be fixed length data (Zandi: column 36, lines 5-10), as in the claims.

Zandi discloses image playback device (Zandi: figure 1) for decoding/playing-back according to 1/n fold playback speeds (Zandi: column 22, lines 50-67; column 23, lines 1-50) each frame image coded obtained by a dividing image data of each frame constituting an motion image into frequency sub-bands (Zandi: column 16, lines 1-67) and encoding the same so that the coded data of predetermined sub-bands (Zandi: column 17, lines 55-67; column 18, lines 1-15) of the frequency sub-bands are length-fixed (Zandi: column 35, lines 5-15), comprising: playing back means for decoding at least one of said length fixed coded data (Zandi: column 6, lines 32-45), and playing back the same as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as claim 22.

Zandi discloses a storage medium storing therein program codes (Zandi: column 4, lines 65-67; column 5, lines 1-4) functioning as an image playback device for decoding/playing-back according to 1/n fold playback speeds (Zandi: column 22, lines 50-67; column 23, lines 1-50) each frame image coded obtained by a dividing image data of each frame constituting an motion image into frequency sub-bands (Zandi: column 16, lines 1-67) and encoding the same so that the coded data of predetermined sub-bands (Zandi: column 17, lines 55-67; column 18, lines 1-15) of the frequency sub-bands are length-fixed (Zandi: column 35, lines 5-15), comprising a program code of a generating step of decoding at least one of said length-fixed coded data (Zandi: column 6, lines 32-45), and playing back as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as claim 23.

Zandi discloses a coding method of encoding image data (Zandi: column 52, lines 10-20) of each frame constituting an motion image (Zandi: column 6, lines 60-65), comprising: a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); a dividing section of dividing into code blocks a plurality of frequency sub-bands obtained in said transforming step (Zandi: column 33, lines 25-55); a decomposing step of forming into bit planes the code blocks obtained in said dividing step, and decomposing each bit plane into three coding passes (Zandi: column 19, lines 43-67; column 20, lines 1-43); a coding step of encoding said each coding pass (Zandi: column 21, lines 11-51), and distributing the obtained coded data to plurality of layers, thereby generating coded data having a layer structure (Zandi: column 37, lines 13-62); and a code length controlling step for controlling the coded data of a predetermined layer in each said layer so that it takes on a predetermined length (Zandi: column 35, lines 5-15), as in claim 24.

Regarding claims 25-26, Zandi discloses that predetermined layer of said coded data is a layer for constructing the uppermost bit plane and each of a plurality of layers (Zandi: column 29, lines 15-60) fixed length data (Zandi: column 36, lines 5-10), as in the claims.

Zandi discloses a coding device (Zandi: figure 1) for encoding image data (Zandi: column 52, lines 10-20) of each frame constituting an motion image (Zandi: column 6, lines 60-65), comprising: transform means for performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); dividing means for dividing into code blocks a plurality of frequency sub-bands obtained in said transforming step (Zandi: column 33,

lines 25-55); decomposing means for forming into bit planes the code blocks obtained in said dividing step, and decomposing each bit plane into three coding passes (Zandi: column 19, lines 43-67; column 20, lines 1-43); coding means for encoding said each coding pass (Zandi: column 21, lines 11-51), and distributing the obtained coded data to plurality of layers, thereby generating coded data having a layer structure (Zandi: column 37, lines 13-62); code length controlling means for controlling the coded data of a predetermined layer in each said layer so that it takes on a predetermined length (Zandi: column 35, lines 5-15), as in claim 27.

Zandi discloses a storage medium storing therein program codes (Zandi: column 4, lines 65-67; column 5, lines 1-4) functioning as an image playback device of each frame constituting an motion image (Zandi: column 6, lines 60-65), comprising: a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a transforming step of performing discrete wavelet transformation on inputted image data (Zandi: column 8, lines 1-67), thereby generating transformation factors of a plurality of frequency sub-bands (Zandi: column 16, lines 1-67); a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a dividing step of dividing into code blocks a plurality of frequency sub-bands obtained in said transforming step (Zandi: column 33, lines 25-55); a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a decomposing step of forming into bit planes the code blocks obtained in said dividing step, and decomposing each bit plane into three coding passes (Zandi: column 19, lines 43-67; column 20 1-43); a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4) of a coding step of encoding said each coding pass (Zandi: column 21, lines 11-51), and distributing the obtained coded data to plurality of layers, thereby generating coded data having a layer structure (Zandi: column 37, lines 13-62); and a program code (Zandi: column 4, lines 65-67; column 5, lines 1-4)

of a code length controlling step for controlling the coded data of a predetermined layer in each said layer so that it takes on a predetermined length (Zandi: column 35, lines 5-15), as in claim 28.

Zandi discloses an image playback method of forming into bit planes (Zandi: column 31, lines 60-67) transformation factors obtained by subjecting image data into each frame constituting an motion image (Zandi: column 6, lines 60-65) to wavelet transformation (Zandi: column 8, lines 1-15), decomposing each bit plane into three coding passes (Zandi: column 19, lines 43-67; column 20, lines 1-43), distributing coded data expressing these coding passes to a plurality layers (Zandi: column 37, lines 37-62), and decoding/playing-back each frame image coded data subjected to length fixation (Zandi: column 36, liens 5-15) according to 1/n fold playback speeds for the coded data of predetermined layers (Zandi: column 22, lines 50-67; column 23, lines 1-50),wherein at least one of said length-fixed coded data are decoded as objects to be decoded (Zandi: column 6, lines 32-45), and are played back as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as claim 29.

Regarding claims 30-31, Zandi discloses that predetermined layer of said coded data is a layer for constructing the uppermost bit plane and each of a plurality of layers (Zandi: column 29, lines 15-60) fixed length data (Zandi: column 36, lines 5-10), as in the claims.

Zandi discloses an image playback device (Zandi: figure 1) forming into bit planes (Zandi: column 31, lines 60-67) transformation factors obtained by subjecting image data into each frame constituting an motion image (Zandi: column 6, lines 60-65) to wavelet transformation (Zandi: column 8, lines 1-15), decomposing each bit plane into three coding

passes (Zandi: column 19, lines 43-67; column 20, lines 1-43), distributing coded data expressing these coding passes to a plurality layers (Zandi: column 37, lines 37-62), and decoding/playing-back each frame image coded data subjected to length fixation (Zandi: column 36, lines 5-15) according to 1/n fold playback speeds for the coded data of predetermined layers (Zandi: column 22, lines 50-67; column 23, lines 1-50), comprising: means for decoding at least one of said length-fixed coded data are decoded as objects to be decoded (Zandi: column 6, lines 32-45), and are played back as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as in claim 32.

Zandi discloses a storage medium storing therein program codes (Zandi: column 4, lines 65-67; column 5, lines 1-4) functioning as an image playback device for forming into bit planes (Zandi: column 31, lines 60-67) transformation factors obtained by subjecting image data into each frame constituting an motion image (Zandi: column 6, lines 60-65) to wavelet transformation (Zandi: column 8, lines 1-15), decomposing each bit plane into three coding passes (Zandi: column 19, lines 43-67; column 20, lines 1-43), distributing coded data expressing these coding passes to a plurality layers (Zandi: column 37, lines 37-62), and decoding/playing-back each frame image coded data subjected to length fixation (Zandi: column 36, liens 5-15) according to 1/n fold playback speeds for the coded data of predetermined layers (Zandi: column 22, lines 50-67; column 23, lines 1-50), comprising: a program code (Zandi: column 4, liens 65-67; column 5, lines 1-4) of a step of decoding at least one of said length-fixed coded data are decoded as objects to be decoded (Zandi: column 6, lines 32-45), and are played back as images of frames to be decoded, in accordance with said playback speed (Zandi: column 47, lines 55-65), as in claim 33.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schwartz discloses an embedded wavelet system implementation.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (703)-305-4813. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (703)-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andy S. Rao
Primary Examiner
Art Unit 2613

ANDY RAO
PRIMARY EXAMINER

asr
June 10, 2004